

AMENDMENT AND RESPONSE UNDER 37 C.F.R. 1.116
Serial Number: 09/883,790
Filing Date: June 18, 2001
Title: COMPOSITE SOFTBALL BAT

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IN THE CLAIMS

Please amend the claims as follows. The detailed claim listing below is intended to reflect the amendment of previously pending claims 5, 6, and 8; and the addition of new claims 17-29.

1. (Previously Presented) A bat comprising:
a hitting surface;
a handle element attached to the hitting surface; and
a sleeve positioned within the hitting surface, wherein the hitting surface and the sleeve are comprised of composite materials;
wherein the hitting surface is made from a first set of fibers and a first resin and wherein the sleeve is made from a second set of fibers and a second resin, the second set of fibers and the second resin being different than the first set of fibers and first resin.
2. (Original) The bat of claim 1 wherein the hitting surface has a first stiffness and the sleeve positioned within the hitting surface has a second stiffness different than the first stiffness.
3. (Original) The bat of claim 1 wherein the hitting surface has a first stiffness and the sleeve positioned within the hitting surface has a second stiffness different than the first stiffness, wherein the second stiffness is approximately 3 times the stiffness of the first stiffness.
4. (Cancelled)
5. (Currently Amended) The bat of claim 1 [4] wherein the first set of fibers includes a tubular sock.
6. (Currently Amended) The bat of claim 1 [4] wherein the second fiber and resin is impregnated in the second set of fibers.

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7. (Original) The bat of claim 6 wherein the second fiber and second resin is an E-glass fiber impregnated resin.
8. (Currently Amended) The bat of claim 1 [4] wherein the second set of fibers and resin is a sheet of material.
9. (Withdrawn) A method of forming a bat comprising:
forming a tubular hitting surface;
forming a sleeve from composite material; and
fitting the sleeve within the tubular surface.
10. (Withdrawn) The method of claim 9 wherein the step of fitting the sleeve within the tubular surface comprises force fitting the sleeve within the tubular hitting surface.
11. (Withdrawn) The method of claim 9 wherein the step of forming a sleeve from composite material comprises laying up a plurality of layers of material.
12. (Withdrawn) The method of claim 11 wherein laying up a plurality of layers of material further comprises laying up a first layer of material and a second layer of material at different angles.
13. (Withdrawn) The method of claim 11 wherein laying up a plurality of layers of material further comprises laying up a first layer of material and a second layer of material at different angles, wherein the angles of laying up are varied to change the nodes of vibration within the bat.
14. (Withdrawn) The method of claim 9 wherein the step of forming a sleeve from composite material comprises:
laying up a plurality of layers of material; and
wrapping the plurality of layers about a mandrel.

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15. (Withdrawn) The method of claim 9 wherein the step of forming a sleeve from composite material comprises:
 - laying up a plurality of layers of material;
 - wrapping the plurality of layers about a mandrel; and
 - wrapping tape over the plurality of layers about the mandrel.
16. (Withdrawn) The method of claim 14 wherein the step of wrapping tape includes:
 - wrapping a first layer of tape to produce a release layer; and
 - wrapping a second layer of tape to produce a strength layer.
17. (New) The bat of claim 1 wherein the sleeve is located substantially within the hitting surface of the bat.
18. (New) The bat of claim 1 wherein the sleeve has a length substantially equal to the length of the hitting surface of the bat.
19. (New) The bat of claim 1 wherein the force fit of the sleeve within the bat allows the sleeve to move with respect to the hitting surface.
20. (New) The bat of claim 1 wherein the sleeve is unjoined with the hitting surface.
21. (New) The bat of claim 1 wherein the interface between the sleeve and the hitting surface is adhesive free to allow for relative movement between the hitting surface of the bat and the sleeve.
22. (New) A bat comprising:
 - a hitting surface;
 - a handle element attached to the hitting surface; and

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a sleeve having a length less than the length of the bat positioned within the hitting surface to allow movement between the hitting surface and the sleeve, wherein the hitting surface and the sleeve are comprised of a composite material.

23. (New) The bat of claim 22 wherein the hitting surface has a first stiffness and the sleeve positioned within the hitting surface has a second stiffness different than the first stiffness.

24. (New) The bat of claim 22 wherein the hitting surface has a first stiffness and the sleeve positioned within the hitting surface has a second stiffness different than the first stiffness, wherein the second stiffness is approximately 3 times the stiffness of the first stiffness.

25. (New) The bat of claim 22 wherein the sleeve positioned within the hitting surface is force fit within the hitting surface.

26. (New) The bat of claim 22 wherein the sleeve is force fit within the hitting surface and the interface between the sleeve and the hitting surface is adhesiveless to allow the sleeve to move with respect to the hitting surface.

27. (New) The bat of claim 22 wherein the sleeve has a length substantially equal to the length of the hitting surface.

28. (New) The bat of claim 22 wherein the sleeve has a length less than the length of the hitting surface.

29. (New) A bat comprising:
a hitting surface;
a handle element attached to the hitting surface; and
a sleeve force fit within the hitting surface, wherein the hitting surface and the sleeve are comprised of composite materials;

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wherein the hitting surface is made from a first set of fibers and a first resin and wherein the sleeve is made from a second set of fibers and a second resin, the second set of fibers and the second resin being different than the first set of fibers and first resin.